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**Murphy et al.**

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(54) **SYSTEMS AND METHODS FOR VALVE INSERTION AND LINESTOPPING**

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This patent is subject to a terminal disclaimer.

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(56) **References Cited**

U.S. PATENT DOCUMENTS

587,092 A * 7/1897 French ..... B25B 27/24 137/317
3,032,069 A * 5/1962 Ficklin ..... F16L 55/124 137/315.27

(Continued)

FOREIGN PATENT DOCUMENTS

CA 2254656 8/1999
DE 69812316 T2 8/1999

(Continued)

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(57) **ABSTRACT**

The present embodiments provide systems and methods for valve insertion and linestopping. In one embodiment, the system comprises a sealing housing having a lower housing portion and an upper housing portion that are each dimensioned to partially surround an exterior surface of an existing pipe in an airtight state. In one embodiment, an integral valve assembly is disposed at least partially within an integral valve housing section of the upper housing portion. The integral valve assembly comprises a valve movable between an open position in which the valve provides an open pathway through an opening in the upper housing portion, and a closed position in which the valve provides a seal adjacent to the opening. The upper housing portion may be adapted to selectively receive each of an adapter plate for a cutting machine, a valve bonnet, and a blind flange. Optionally, the valve bonnet and the gate may be removed from engagement with the upper housing portion when the valve of the integral valve assembly is in the closed position, and a blind flange may be secured to the upper housing portion after the valve bonnet and the gate are removed. Therefore, the user advantageously has an option of whether to leave the valve bonnet and the gate coupled to the sealing housing for certain applications, or may remove the valve bonnet and the gate for other applications.

**15 Claims, 9 Drawing Sheets**